October 18, 1951.

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Dear Peter:

Thanks for your letter of the 15th, which clears up most of my questions.

In view of your remarks about crosses of 58-278 S^r x "standard sensitive", we had certainly better do the cross again. If we get the same result, i.e., mostly mutable S^s, perhaps we had better compare our particular strains of 58-278 S^r. At any rate, we will let you know promptly.

We had nó intention of crowding you on the analysis of 58-278, and I hope that you don't regard our interest in streptomycin-resistance as pressure on you to publish anything you're not sure of. We will certainly consult with you on any findings we make.

The one aspect of this problem that mainly interests us is the question of the role of "Ms+" in S^r mutation generally. It is problematical whether we would have looked for this without the information you provided on the specific case of 58-278, but as I mentioned in the previous letter, there were peculiarities of prototrophs from such crosses as 58-161 x Y-10 S^r that might have led to it. To summarize, we would like to wait for the completion of your own analysis of the special case of 58-278, except of course to clear up the possible discrepancy in our results. With your report as a basis, we might go ahead with the more general problem.

Our results with S^s x S^r giving Ms+ S^s recombinants are only tentative. If our supposition is correct, however, it might clear up some aspects of crosses involving S^s Ms+. Naturally, if S^r testers arealready Ms+, then crosses such as 58-278 x S^r will give all or mostly Ms+ among the S^s, if there is one or more than one Ms locus, respectively. However, if you do not get Ms+ S^s in crosses of 58-278 S^r x S^s Ms-, and we do, then either one of us has missed something, or 58-278 can give different classes of S^r. At the moment we could not insist on the correctness of our findings, but will hasten to check them.

You may be interested in some of wur work on Salmonella which Norton Zinder is completing for his doctorate here. Unlike coli, Salmonella has a recombination system similar to that of pneumococcus, involving a filtrable agent that can carry over one factor only at a time. The system operates for most strains carrying XII antigen, and for all the markers we can find (auxotroph; fer; S^r). Typhi x typhimurium has apparently given some new serotypes. Sincerely,